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Anxiety Reduction in Pregnancy Subsequent to Perinatal Loss

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Abstract

Anxiety is common in pregnancies that occur after a miscarriage or perinatal loss and can lead to detrimental effects on the mother and fetus. The objective of this literature review is to examine whether caring-based nursing actions and anxiety-reducing interventions decrease the self-report of anxiety more than self-management alone. A literature search of four journal databases was conducted using related keywords which produced 429 studies for consideration. A total of 57 studies were reviewed for a match with the inclusion criteria. Nine studies were included in the review provided knowledge of anxiety in pregnancy after loss, discussed anxiety self-management techniques, and/or presented efficacious interventions to reduce the anxiety. These interventions included caring-based nursing actions along with relaxation, journaling, and using "I" messages. Studies were excluded if they did not focus on anxiety in combination with a subsequent pregnancy after a loss. The caring-based nursing actions combined with the anxiety-reducing interventions lowered anxiety more than women performing self-management techniques alone. This knowledge should empower care providers to utilize caring-based nursing actions and teach anxiety-reducing activities in order to assist women experiencing pregnancy after a loss to reduce their self-reported feelings of anxiety.

Keywords: anxiety reduction, miscarriage, perinatal loss, previous pregnancy

Anxiety Reduction in Pregnancy Subsequent to Perinatal Loss

Primipararous women or those who are experiencing their first pregnancy, often experience joyous emotions when they embark on their gestational journey, especially in a planned pregnancy. Women and their partners might start immediately planning the name of their child, announcing to family, or mentally making room for the expectation of a new member to the family. Most of the emotions are positive, but for women who have experienced a previous loss of pregnancy, or an early neonatal death, the emotions are usually more negative than positive (Côté-Arsenault, Schwartz, Krowchuk, & McCoy, 2014). For these women, "pregnancy does *not* equal baby" (Côté-Arsenault & Donato, 2011, p. 81). These women do not believe in the fidelity or the successful outcome of the pregnancy (Côté-Arsenault & Donato), because they are among the 30% of all women who have encountered a spontaneous abortion (miscarriage), stillbirth, or death of their child as a neonate or within the first 28 days of life (Gaudet, 2010). Not only do these women question the pregnancy, they also question the functional capacity of their own body to bear a child (Bergner, Beyer, Klapp& Rauchfuss, 2008).

The negative emotions that are experienced by pregnant women who have suffered previous perinatal loss, are pervasive and fall into common themes. The range of emotions can include but are not limited to: guilt for the loss and for 'moving on' to bear another child, fear of losing the pregnancy, grief, depression, stress, post-traumatic stress disorder, and anxiety (Côté-Arsenault, 2008; Côté-Arsenault & Donato, 2011; Gaudet, 2010; Hunter, Tussis & MacBeth, 2017). In the women who become pregnant subsequent to a perinatal loss, the emotion of anxiety is present longer into the next pregnancy than feelings of depression (Hunter et al., 2017). Therefore, the following review will examine the anxiety that is exhibited by women

experiencing pregnancy after loss (PAL), and explore whether caring-based nursing actions and anxiety- reducing activities diminish anxiety more than self-management alone.

Background

The clinical phenomenon of interest, the clinical question used to guide this literature review, and the clinical significance for advanced practice registered nurses (APRNs) are the topics examined as follows.

Clinical Phenomenon of Interest

Anxiety is pervasive in women experiencing PAL. Researchers have well established that women who have had a miscarriage or other perinatal loss have significantly higher levels of anxiety and pregnancy-specific anxiety, especially in the beginning of the new pregnancy, than pregnant women who have not experienced a loss (Bergner et al., 2008; Gaudet, 2010; Meredith, Wilson, Brandjerdporn, Strong, & Desha, 2017; Tektaş & Çam, 2017). These women are anxious about losing the pregnancy and tend to be 'hypervigilant' in attending to their symptoms (Gaudet, 2010). Women experiencing PAL will analyze every sign (e.g., nausea, a lack of nausea, cramping, headaches, and the like), in order to feel as if they are in control of something in the pregnancy, because another loss is ultimately not under their control (Gaudet, 2010). Also out of their control is losing the identity of becoming a mother. Many women assume this identity in the very early moments following the discovery that they are pregnant. This loss of 'being a mother' is often not noticed by the woman's social network and can increase feelings of isolation and anxiety (Gaudet, 2010).

In addition to the hypervigilance, women experiencing PAL also naturally tend to blunt their emotions, and prevent themselves from feeling excited or allowing an emotional attachment to occur as a protective measure; this is sometimes referred to as emotional cushioning (Bergner

et al., 2008; Côté-Arsenault, 2007; Côté-Arsenault & Donato, 2011; Meredith et al., 2017). This emotional cushioning is not usually a conscious choice, but one that most women in PAL do naturally. This is a self-management technique that can be beneficial as a way to allow the woman to physically progress through the new pregnancy without investing too much emotional energy (Côté-Arsenault & Donato, 2011).

Anxiety-reducing activities and interventions are frequently used to manage generalized anxiety disorders. An exploration of some techniques and caring interventions will be reviewed for their efficacy in women experiencing PAL.

Clinical Question

The clinical question guiding this literature review is, in pregnant women who have experienced previous perinatal loss, how do anxiety reduction strategies including caring-based nursing actions and anti-anxiety skill building, compared to the usual self-management, impact the self-perception of anxiety reduction with pregnancies subsequent to the loss?

Clinical Significance for Advanced Practice

Advanced practice registered nurses will work with many women who are experiencing PAL, and will need to understand the best evidence based practices for assisting these women in managing a new pregnancy. An estimated 50 - 86% of women will be pregnant again within 12 to 18 months after their loss (Geller et al., 2004; Meredith et al., 2017). Though some causes of miscarriage or perinatal death are known, many losses occur without a clear indication as to why it happened. One hypothesis is that increased stress and heightened levels of anxiety contribute to fetal demise by restricting the blood flow to the placenta (Bergner et al., 2008; Côté-Arsenault & Donato, 2011; Geller et al., 2004). This highlights the need for APRNs to evaluate and

implement ways to empower women to acquire coping skills to reduce their anxiety in the new pregnancy.

Methods

The methods of this literature review search including the strategies, data abstraction process, and the methodological assessment are reviewed in the following sections.

Search Strategies

The search strategies for this literature review included selection of electronic databases most likely to cover the phenomenon of interest. Table A1 identifies the four electronic databases selected for the electronic search along with the general subjects covered by each database. The restrictions used when searching the Cumulative Index to Nursing and Allied Health Literature (CINAHL) were limited to English language, peer reviewed, and published between the dates 2007 to 2017. The second database used was the Cochrane Database of Systematic Reviews. This database houses high quality systematic reviews of healthcare data and research. No restrictions were placed on this database search, as it was unknown if any systematic reviews had ever been published on this topic. The third database, MEDLINE, includes all medical topics and is produced by the U.S. National Library of Medicine. The search restrictions for MEDLINE included: English language, peer reviewed, journal article, humans, female, and published between 2007 and 2017. The fourth database, PsycINFO, houses information from the discipline of psychology and related fields, including nursing and medicine. The search restrictions for PsycINFO included: English language, peer reviewed journal, female, scholarly journals, and published between 2004 and 2017. The reason a broader publication date range was selected for this database was to include a literature review that was published in 2004, which highlighted the knowledge obtained on this topic up until that time.

Data Abstraction Process

In the search process as outlined in Table 2 of the Appendix, keywords and keyword combinations were used to locate studies applicable to the clinical question. The keywords of "anxiety reduction" and "previous pregnancy" and "pregnant" returned four hits in CINAHL, all of which were reviewed for inclusion or exclusion in the literature review. These same keywords returned zero hits in the Cochrane Database of Systematic Reviews. The key words of "perinatal loss" and "anxiety" produced 78 hits in CINAHL and again zero in the Cochrane Database of Systematic Reviews; none of the 78 were evaluated for appropriateness. Next the key words of "perinatal loss" and "anxiety" and "pregnan*" were used. In CINAHL, this produced 37 hits, and all were reviewed for appropriateness for inclusion. This same combination of keywords produced zero hits in the Cochrane Database of Systematic Reviews. The final set of key words used with these two databases was, "miscarriage" and "anxiety." In CINAHL, this search produced 66 hits and in the Cochrane Database of Systematic Reviews, three results were produced. The hits in the Cochrane Database of Systematic Reviews were reviewed.

The key words of "anxiety reduction" and "perinatal loss" produced five hits in PsycINFO, all of which were reviewed for inclusion. The key words of "miscarriage" and "anxiety" produced 138 hits in PsycINFO and 90 hits in MEDLINE. These were not reviewed for inclusion. The final key words of "miscarriage" and "anxiety symptomatology" produced four results in both PsycINFO and MEDLINE; all eight results were reviewed for appropriateness for inclusion.

Of the 57 hits that were reviewed for appropriateness for inclusion, four were duplicates and were included once in Table 3 of the Appendix that identifies the rationale for each study's inclusion or exclusion. Among the 57 studies, 48 were excluded based on one or more the

following criteria the literature focused primarily on depression or grief rather than anxiety (6), focused on anxiety but did not include miscarriage or perinatal loss (14), examined mental state after birth, not during subsequent pregnancy (2), focused only on obese women (1), focused on miscarriage but did not include a discussion on anxiety (6), focused on anxiety during amniocentesis (2), focused on healthcare utilization in general after miscarriage (1), focused on cesarean sections (1), did not include a subsequent pregnancy after loss (6), focused on maternal-fetal relationship without anxiety (1), rat study, no human women (2), focused on pre-term birth (2), and focused on gestational diabetes (1).

The nine studies that were included were chosen because they examined anxiety in women who were pregnant subsequent to perinatal loss (6), examined the self-management and other reduction techniques of anxiety during pregnancy subsequent to perinatal loss (1), and tested interventions to reduce anxiety in women pregnant subsequent to perinatal loss (2). Table 4 of the Appendix provides the detailed data abstracted from each of the included articles.

Methodological Assessment

The nine studies that were chosen for inclusion in this literature review varied in the strength of their evidence. Melnyk & Fineout-Overholt's (2015) Hierarchy of Evidence (seven-level rating system) was used to identify the best evidence available. Two studies were level II, well designed randomized controlled trials; however, one study was conducted in two phases and one phase of the study was a level III, a controlled trial without randomization. The majority of the studies (4) were a level IV evidence level since they were well designed case controlled or cohort studies. Two studies were level V, systematic reviews of qualitative studies, and one study was a level VI, evidence from a single qualitative study (Melnyk & Fineout-Overholt, 2015). The strength of evidence on this topic is limited however, this body of evidence is

sufficient to make recommendations for practice and further inquiry as discussed in this literature review.

Summary of the Literature

The studies included in this literature review provide insight into understanding the experience for women experiencing PAL, the factors that influence anxiety, and various interventions aimed at ameliorating anxiety. The nine articles that met inclusion criteria encompass studies completed in at least five countries (Australia, France, Germany, Turkey and the United States). One article reviewed 85 studies on this topic, but did not list all of the locations for the studies; therefore, more than five countries are likely represented. Despite the evidence originating from various countries in the world, the evidence is incredibly similar, and therefore supports the applicability of the findings to a large cross section of the population that APRNs in the United States will likely encounter in practice.

Synthesis of Research

The studies included in this literature review have slightly different foci; however common themes emerged from the literature and are examined here. The themes provide insight and guidance for working with women experiencing PAL.

Anxiety after miscarriage is natural. Women experiencing PAL might feel like their experience with anxiety is unique to them and that no one else has felt the way that they do. The anxiety is related to the fear that this pregnancy will also end in loss, and the disbelief or refusal to accept that this pregnancy will result in a living baby (Gaudet, 2010). Ample evidence exists that identifies anxiety as a very common and natural response to a miscarriage or perinatal loss. Geller et al. (2004) report that in one study they examined, 33% of the women who had experienced perinatal loss had such severe anxiety symptoms that they were treated as inpatients

for their mental health concerns while pregnant subsequent to the loss. However, they note that some level of anxiety is to be expected and is not considered pathological (Geller et al., 2004).

Gaudet (2010) found that 72% of the women in the perinatal loss group had anxiety in the subsequent pregnancy compared to 29% in the control group who had not experienced perinatal loss. Côté-Arsenault (2007) studied a cohort of 82 women who were pregnant after a perinatal loss. , All participants reported some level of anxiety and on a 0-100 anxiety severity scale in the time interval between the 10^{th}-17^{th} weeks of pregnancy. It is important to note that Côté-Arsenault (2007) also identified that the women in this study did have significant levels of pregnancy related anxiety (mean score was 47.46), but were not generally anxious; therefore, it is not likely that the anxiety reports are because the women have a trait of generally being anxious, but rather due to being pregnant after having perinatal loss. Bergner et al. (2008) identified that women who had experienced one or more miscarriages had significantly more pregnancy related anxiety than did the control group counterparts who had not experienced a miscarriage.

Côté-Arsenault et al. (2014) identified that by merely acknowledging the anxiety and normalizing it for women experiencing PAL, it provided a level of comfort in knowing that they were not alone. Despite the compelling research indicating that anxiety is commonplace for women experiencing PAL, Côté-Arsenault and Donato (2011) found that anxiety in the subsequent pregnancy might actually be underreported. In this study, anxiety was evaluated at multiple points during and after the subsequent pregnancy. They found that the retrospective report of pregnancy related anxiety was higher than the report of anxiety while pregnant, suggesting that the women did not admit to their true levels of anxiety during the pregnancy (Côté-Arsenault & Donato, 2011).

Anxiety is highest in early pregnancy but improves with time. Throughout the course of the pregnancy subsequent to loss, anxiety decreases over time, seemingly irrespective to intervention. Geller et al. (2004) found that beyond six months after a loss, anxiety levels were no longer significantly different for those who experienced a loss versus control groups. Hunter et al. (2017) identified that anxiety decreased over time for pregnant women with and without previous perinatal loss; additionally, as women who experienced previous loss surpassed milestones (such as the gestational point in which the previous loss occurred or after normal scans) anxiety naturally decreased. Côté-Arsenault (2007) noted that because it is more likely that a successful term pregnancy will result as the gestational age increases, it is not surprising that pregnancy specific anxiety after previous loss decreases over time.

Women experiencing PAL utilize more healthcare resources. It has been well established that women experiencing PAL have heightened anxiety; therefore, it is understandable that these women utilize more healthcare resources than women who have not previously experienced loss. The women experiencing PAL want to have reassurances that the current pregnancy is progressing well, and that there has not been another fetal demise (Tektaş & Çam, 2017). This need for reassurance is especially true in the first trimester when the woman is not yet able to feel fetal movements, which can help allay some anxiety later in the pregnancy (Meredith et al., 2017).

Côté-Arsenault (2007) identified that women experiencing PAL requested more tests than women who have not had a perinatal loss, and that their care costs $533 more than the care of pregnant women who have not experienced a previous loss. Meredith et al., (2017) found that women wanted more frequent visits to the clinic and the Pregnancy After Loss Clinic (PALC). The participants were allowed to make appointments for scans and access extra services without

prior authorization merely because they had experienced previous loss; the women in this study identified access to these services as a satisfier and decreased anxiety (Meredith et al., 2017). Tektaş and Çam (2017) identified that more frequent visits with care providers, additional ultrasounds, and increased testing also were anxiety-reducing activities for women experiencing PAL.

Women naturally perform some levels of self-management. Just as anxiety in PAL is natural, so is the self-management that many women attempt in order to reduce their anxiety. Much of this self-management occurs without the woman explicitly aware of this effort. Côté-Arsenault and Donato (2011) used the term "emotional cushioning" to describe the defense mechanism that is employed by women experiencing PAL (p. 81). The women who perform emotional cushioning tend to try not to become emotionally attached to the new fetus/pregnancy in order to protect themselves from experiencing loss in the same way or to the same degree that they did with the previous loss. The women reported creating an "emotional cocoon" (p. 83) around themselves in order to provide protection from the pain of loss. Meredith et al. (2017) also describe that women experiencing PAL attempt to not allow themselves to get attached to the new pregnancy as a method of self-protection.

Bergner et al. (2008) describe that women experiencing PAL naturally cope by using "distraction and self-enhancement" and "active and problem oriented coping" (p. 107). Similarly Côté-Arsenault (2007) found that women experiencing PAL coped with the anxiety and the previous loss by avoiding the feelings, blaming themselves for the loss, and seeking out social support to assist in dealing with their emotions.

Activities to reduce anxiety. Few studies have evaluated interventions aimed at reducing anxiety in PAL. However, three of the studies included in this literature review identified

interventions that proved efficacious for women pregnant subsequent to perinatal loss. Côté-Arsenault et al. (2014) taught the participants in their study four anxiety reducing skills, seen by the participants as helpful. These anxiety reduction techniques were identified in the following rank order from the most to least helpful as follows: relaxation techniques, journaling or keeping a pregnancy-specific diary, problem solving in relationships, and learning "I" messages and assertive communication to describe how the pregnant woman was feeling (Côté-Arsenault et al., 2014). These four methods were not explicitly detailed, so it would be challenging to replicate this study or its interventions with women experiencing PAL.

Meredith et al. (2017) identified that the participants in their study found journaling, blogging, and reading books about pregnancy after perinatal loss were beneficial to reducing anxiety. Tektaş and Çam (2017) utilized touch from caregiver to pregnant mother, relaxation exercises, and music therapy interventions as part of their caring nursing. As these interventions were used in conjunction with the Watson's Theory of Human Caring, it is difficult to parcel out the impact that the interventions had on anxiety reduction. The intervention group had statistically significant improvement of anxiety as compared to the control group ($p < 0.001$), but no direct causal relationship can be determined between the Watson method and the anxiety reducing interventions (Tektaş & Çam, 2017).

Care providers make the difference. Despite the support for anxiety-reducing activities as well as the knowledge that anxiety during PAL reduces over time, the most interesting finding in this literature review is that care providers have a substantial impact on the consistent reduction of anxiety. This finding was identified in multiple studies, even in those whose focus was not on the impact of the care provider (Côté-Arsenault et al., 2014; Hunter et al., 2017; Meredith et al., 2017; Tektaş & Çam, 2017).

In Tektaş and Çam's (2017) evaluation of Watson's Theory of Human Caring on reducing anxiety in pregnant women subsequent to loss, they found a significant improvement in not only anxiety, but also depression, hopelessness and prenatal attachment for the women in the intervention group. The control group by comparison also had experienced previous perinatal loss, but this group did not have any significant improvement in any of these four areas.

Côté-Arsenault et al. (2014) evaluated home visits provided by an expert nurse utilizing the framework of Swanson's Theory of Caring for women experiencing PAL, and found this model successful in improving the social support for intervention group. The women in the intervention group reportedly enjoyed the home visits so much that many requested additional visits (Côté-Arsenault et al., 2014). This study reported an improvement in anxiety for these women, however, did not find statistically significant reduction in anxiety (Côté-Arsenault et al., 2014).

In Meredith et al.'s (2017) qualitative study of women experiencing PAL, they utilized a Pregnancy After Loss Clinic as the setting to identify the impact of this type of service for women experiencing PAL. The greatest finding was that the women reported a high level of satisfaction with the support they received from the care providers in the clinic (Meredith et al., 2017). Some women attributed their ability to maintain their mental health on the support they received from the providers at the clinic (Meredith et al., 2017).

Finally, in the meta-analysis by Hunter et al. (2017), it was suggested that care providers can affect the mental and physical wellbeing of women during PAL by providing continuity of care, evaluating the woman's mental state, truly knowing her story and experience of loss in order to provide sensitive care, and allowing more access to visits and other testing. While this

does not provide a statistically significant level of evidence, it is important to understand the finding that the care provider can impact the level of health for women experiencing PAL.

Quality Indicators

The current literature on reducing anxiety in women experiencing PAL is not extensive and unfortunately systematic reviews do not exist yet. The studies examined used different scales for measuring anxiety. Some used pregnancy specific anxiety scales while others used general state trait anxiety scales that may not offer the best measurement of anxiety during pregnancy because they do not take into account the normal increase in the baseline of anxiety in pregnant women. The research by Tektaş and Çam (2017) provided the best level of evidence and was a well-designed randomized controlled trial that included a control group who also had experienced a previous perinatal loss. This strengthened the data by providing a well-matched control group to compare to the intervention group.

Other studies used control groups that had not previously experienced perinatal loss. These studies were helpful in identifying that women experiencing PAL did in fact have elevated levels of anxiety, however, no significant contributions to understanding specific interventions for the reduction of anxiety could be determined. Geller et al. (2004) used a control group of women that had never even been pregnant; instead, they were comprised of mental health patients and college students. This lead the researchers to conclude that women experiencing PAL were no more anxious than the control group (Geller et al., 2004).The studies that were well designed contributed helpful information to determining interventions to reduce anxiety in women experiencing PAL.

Gaps in Literature

Multiple studies have suggested that miscarriage can be caused by maternal stress, and anxiety (Bergner, et al., 2008; Côté-Arsenault, 2007; Côté-Arsenault & Donato, 2011; Geller et al., 2004) however, this has not been confirmed. It would be beneficial to understand this possible link in order to understand the importance of reducing stress and anxiety in early pregnancy in order to reduce the miscarriage rate. Furthermore, there is insufficient evidence to determine if anxious women are experiencing more miscarriages or if the anxiety is a result of the loss rather than an underlying condition. Finally another identified gap in literature is that there has been no known research to date that has evaluated whether it is the anxiety-reducing activities or the impact of caring providers that have the greatest impact on anxiety reduction in women experiencing PAL. Côté-Arsenault and colleagues (2007) as well as Tektaş and Çam (2017) utilized a combination of 'caring' nursing actions and anxiety-reducing activities in their studies. Because of this combination of interventions, it is not well understood which intervention was more efficacious at reducing anxiety.

Discussion

In this systematic review of the literature, there is support for 'caring' nursing actions in combination with anxiety-reducing activities to reduce the self-perception of anxiety in women experiencing PAL compared to self-management alone. The study by Tektaş and Çam (2017), that included the use of Watson's Theory of Human Caring, produced statistically significant results for reducing anxiety in women experiencing PAL. This research provided the strongest evidence for anxiety-reducing interventions because the control group was comprised of randomly selected women who also were experiencing PAL. Since it has been established that women experiencing PAL already perform some level of self-management of anxiety, it further

lends credibility to the study intervention's ability to reduce self-perception of anxiety more than self-management alone.

While there was anecdotal evidence supporting the reduction in the self-perception of anxiety in women experiencing PAL with the use of Swanson's Theory of caring, it was not statistically significant. Côté-Arsenault et al. (2014) suggested that perhaps it is unrealistic to suppose that anxiety could be reduced enough in this group of women because the threat of losing the pregnancy/baby is still present until well after the birth of the child. This supposition is likely true, however there is compelling evidence that anxiety can be successfully reduced with Watson's Theory of Human Caring nursing care as well as with anxiety-reducing interventions.

Implications for the Future

This body of research has sufficient strength to inform future APRN clinical practice, research endeavors, education, and policy development. These recommendations are identified below.

Clinical Practice Recommendations

It has been well established that care providers can make the difference for improving the mental and physical health of women experiencing PAL. APRNs should identify a woman's previous history of perinatal loss and assess for anxiety early in any subsequent pregnancies. It is important to be cognizant of the fact that anxiety is often underreported and frequently not identified by the patient (Côté-Arsenault & Donato, 2011). Women and their partners can be reassured that anxiety is natural in PAL and does not indicate that anything is wrong. Anxiety is a common feeling and will likely improve as the pregnancy advances. APRNs should establish a caring relationship with each woman, provide anxiety-reducing activities, and allow increased

access to care, since these interventions have been shown to reduce anxiety levels upon the self-report of women experiencing PAL.

Recommendations for Research

Recommendations for future research include testing more specific interventions such as the research conducted by Côté-Arsenault et al. (2014), where anxiety-reducing techniques such as relaxation, teaching "I" messages, journaling and problem solving were tested for efficacy. These interventions were not well described, however, and it would be beneficial to understand the exact methods and techniques that were used, as well as testing each action individually in order to tailor the findings to individual patients. Another future area of research would be to test the efficiency of Swanson's Theory of Caring versus Watson's Theory of Human Caring to see if there is a difference in approach to caring that could significantly impact the reduction of anxiety for women experiencing PAL.

Finally, additional research is needed to identify valid and reliable measures of anxiety in women experiencing PAL. As Côté-Arsenault and Donato (2011) describe, many women are not able to recognize the elevation in anxiety therefore researchers cannot fully understand the depth and breadth of how pervasive anxiety is in this population. For example, if a study was conducted using more objective physiologic measures of anxiety in combination with self-reports, this could offer new insights into the true depth of anxiety and the effectiveness of interventions for this population.

Education Recommendations

Recommendations for nursing education would be to include a segment on caring for women experiencing a perinatal loss and caring-based actions to support them during subsequent pregnancies. Each requires a level of empathy and understanding that is not easily

comprehended, especially if the care provider has never experienced this type of loss before. It can be easy to diminish the loss of the previous pregnancy when a woman becomes pregnant again. Many people assume that this pregnancy will now replace the one that was lost; instead, it is important to acknowledge that this new pregnancy is not a replacement, but rather an entirely different entity and experience.

Recommendations for Policy

Meredith et al. (2017) describe a Pregnancy After Loss Clinic that is available in Brisbane, Australia. It has been reported that only four clinics like this exist around the world (Markert, 2017). These clinics can provide comprehensive, compassionate care for women who are experiencing PAL and need to be replicated in other locations for improved access. The care for women experiencing PAL can be complex and by having a clinic that understands the unique needs of this population, significant improvements in the level of care can be achieved.

Conclusion

Pregnancy after loss is a unique time in a woman's life that is filled with heightened emotions; perhaps the most notable is anxiety. Anxiety is natural during a time filled with such uncertainty. Uncertainty regarding her ability to carry a baby to term, whether the baby will be okay, if the pregnancy will end in heartache, or if she will have a child that she will have the pleasure to raise. While the anxiety is natural, it may have harmful effects on the pregnant woman and her fetus. Women will naturally perform some level of self-management of anxiety, but they might not fully realize the depth of their own anxiety. Therefore, APRNs should employ caring-based nursing actions, in conjunction with anxiety-reducing activities, to assist the patient in reducing anxiety, to allow her to bond with her child, and improve the state of her mental health during pregnancy.

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Appendix

Table 1

Database Search Description

Database (or Search Engine)	Restrictions Added to Search	Dates Included in Database	General Subjects Covered by Database
1. CINAHL	English Language; Peer Reviewed;	2007 through 2017	"All aspects of nursing and allied health, including cardiopulmonary technology, emergency service, health education, medical/laboratory, medical assistant, medical records, occupational therapy, physical therapy, physician assistant, radiologic technology, social service/health care, and more." Article databases A-Z: C. (n.d.). Retrieved from https://libguides.mnsu.edu/az.php?a=c
2. Cochrane Database of Systematic Reviews	None	None	High quality systematic reviews of health care data
3. MEDLINE	English; Peer Reviewed; Journal Article; Humans; Female	2007 through 2017	All medical topics, including "research, clinical practice, administration, policy issues, and health care services. Produced by the U.S. National Library of Medicine, MEDLINE contains all records published in Index Medicus and since 2002, most citations previously included in separate NLM specialty databases such as SPACELINE and HISTLINE." Article databases A-Z: M. (n.d.). Retrieved from https://libguides.mnsu.edu/az.php?a=m
4. PsycINFO	English; Peer Reviewed Journal; Female; Scholarly Journals	2004 through 2017	Provides citations and abstracts to articles and books about psychology and "disciplines related to psychology such

Database (or Search Engine)	Restrictions Added to Search	Dates Included in Database	General Subjects Covered by Database
			as psychiatry, education, business, medicine, nursing, pharmacology, law, linguistics, and social work." Article databases A-Z: P. (n.d.). Retrieved from https://libguides.mnsu.edu/az.php?a=p

Table 2

Data Abstraction Process

Date of Search	Key Words	Hits in CINAHL	Hits in Cochrane	Hits in PsycINFO	Hits in MEDLINE
10.21.17	“Anxiety reduction” AND “Previous pregnancy” AND “pregnant”	**4***	0		
	“perinatal loss” AND “anxiety”	78	0		
	“perinatal loss” AND “anxiety” AND “pregnan*”	**37***	0		
	“miscarriage” AND “anxiety”	66	**3***		
10.23.17	“Anxiety reduction” AND “perinatal loss”			**5***	
	“miscarriage” AND “anxiety”			138	90
	“miscarriage” AND “anxiety symptomatology”			**4***	**4***

***BOLD** = articles reviewed for match with systematic review inclusion criteria

Table 3

Characteristics of Literature Included and Excluded

Reference – Duplicate references omitted (Include the full reference here)	**Included or Excluded and Document**	**Rationale**
Adeyemi, A., Mosaku, K., Ajenifuja, O., Fatoye, F., Makinde, N., Ola, B., Ola, B. (2008). Depressive symptoms in a sample of women following perinatal loss. *Journal of the National Medical Association, 100*(12),	Excluded	Focused on depression rather than anxiety

Reference – Duplicate references omitted (Include the full reference here)	**Included or Excluded and Document**	**Rationale**
1463-1468.		
Altieri, S. C., Yang, H., O'Brien, H. J., Redwine, H. M., Senturk, D., Hensler, J. G., & Andrews, A. M. (2015). Perinatal vs genetic programming of serotonin states associated with anxiety. *Neuropsychopharmacology, 40*(6), 1456-1470. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1038/npp.2014.331	Excluded	Does not include miscarriage or perinatal loss
Armstrong, D., Hutti, M., & Myers, J. (2009). The influence of prior perinatal loss on parents' psychological distress after the birth of a subsequent healthy infant. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 38*(6), 654-666. doi:10.1111/j.1552-6909.2009.01069.x	Excluded	Examines the mental state after birth, not during pregnancy
Badenhorst, W., & Hughes, P. (2007). Psychological aspects of perinatal loss. *Best Practice & Research: Clinical Obstetrics & Gynaecology, 21*(2), 249-259.	Excluded	Grief focused and does not include current pregnancy
Bauer, A., Knapp, M., & Parsonage, M. (2016). Lifetime costs of perinatal anxiety and depression. *Journal of Affective Disorders, 19*(2), 83-90. doi:10.1016/j.jad.2015.12.005	Excluded	Does not include previous miscarriage or perinatal loss
Bayrampour, H., Ali, E., McNeil, D. A., Benzies, K., MacQueen, G., & Tough, S. (2016). Pregnancy-related anxiety: A concept analysis. *International Journal of Nursing Studies, 5*(5), 115-130. doi:10.1016/j.ijnurstu.2015.10.023	Excluded	Does not include previous miscarriage or perinatal loss
Bergner, A., Beyer, R., Klapp, B. F., & Rauchfuss, M. (2008). Pregnancy after early pregnancy loss: A prospective study of anxiety, depressive symptomatology and coping. *Journal of Psychosomatic Obstetrics & Gynecology, 29*(2), 105-113. doi: http://dx.doi.org.ezproxy.mnsu.edu/10.1080/01674820701687521	**Included**	Examines anxiety in pregnant women after previous miscarriage
Bhat, A., & Byatt, N. (2016). Infertility and perinatal loss: When the bough breaks. *Current Psychiatry Reports, 18*(3), 31. doi:10.1007/s11920-016-0663-8	Excluded	Does not include previous miscarriage or perinatal loss
Bogaerts, A. F. L., Devlieger, R., Nuyts, E., Witters, I., Gyselaers, W., Guelinckx, I., & Van den Bergh, B. (2013). Anxiety and depressed mood in obese pregnant women: A prospective controlled cohort study. *Obesity Facts, 6*(2), 152-164. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1159/000346315	Excluded	Only focused on obese pregnant women and does not include previous miscarriage or perinatal loss
Campbell-Jackson, L., Bezance, J., & Horsch, A. (2014). "A renewed sense of purpose": Mothers' and fathers' experience of having a child following a recent stillbirth. *BMC Pregnancy & Childbirth, 14*(1),	Excluded	Focuses on the couple and includes couples who had already given birth following the stillbirth

Reference – Duplicate references omitted (Include the full reference here)	**Included or Excluded and Document**	**Rationale**
423. doi:10.1186/s12884-014-0423-x		
Campbell-Jackson, L., & Horsch, A. (2014). The psychological impact of stillbirth on women: A systematic review. *Illness, Crisis & Loss, 22*(3), 237-256. doi:10.2190/IL.22.3.d	Excluded	Does not include previous miscarriage or perinatal loss
Côté-Arsenault, D. (2007). Threat appraisal, coping, and emotions across pregnancy subsequent to perinatal loss. *Nursing Research, 56*(2), 108-116.	**Included**	Focused on pregnancy anxiety after previous perinatal loss
Côté-Arsenault, D., & Donato, K. (2007). Restrained expectations in late pregnancy following loss. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 36*(6), 550-557. doi:10.1111/j.1552-6909.2007.00185.x	Excluded	Does not focus on anxiety
Côté -Arsenault, D., & Donato, K. (2011). Emotional cushioning in pregnancy after perinatal loss. *Journal of Reproductive & Infant Psychology, 29*(1), 81-92. doi:10.1080/02646838.2010.513115	**Included**	Examines pregnant women's self-management of anxiety after previous perinatal loss
Côté -Arsenault, D., Krowchuk, H., Schwartz, K., & McCoy, T. P. (2014). Evidence-based intervention with women pregnant after perinatal loss. *The American Journal of Maternal Child Nursing, 39*(3), 177-188. doi:10.1097/NMC.0000000000000024	**Included**	Tested an intervention to lower anxiety in pregnant women after previous perinatal loss
Cowchock, F., Ellestad, S., Meador, K., Koenig, H., Hooten, E., & Swamy, G. (2011). Religiosity is an important part of coping with grief in pregnancy after a traumatic second trimester loss. *Journal of Religion & Health, 50*(4), 901-910. doi:10.1007/s10943-011-9528-y	Excluded	Focuses on grief rather than anxiety
DeBackere, K., Hill, P., & Kavanaugh, K. (2008). The parental experience of pregnancy after perinatal loss. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 37*(5), 525-537. doi:10.1111/j.1552-6909.2008.00275.x	Excluded	General focus on parental experience, not on the women's experience of anxiety
Filippi, V., Ganaba, R., Baggaley, R., Marshall, T., Storeng, K., Sombié, I., & ... Meda, N. (2007). Health of women after severe obstetric complications in Burkina Faso: A longitudinal study. *Lancet, 370 North American Edition*(9595), 1329-1337.	Excluded	Does not include miscarriage and does not focus on anxiety in subsequent pregnancies
Fink, N. S., Urech, C., Cavelti, M., & Alder, J. (2012). Relaxation during pregnancy: What are the benefits for mother, fetus, and the newborn? A systematic review of the literature. *Journal of Perinatal & Neonatal Nursing, 26*(4), 296-306. doi:10.1097/JPN.0b013e31823f565b	Excluded	Does not include previous miscarriage or perinatal loss
Gaudet, C. (2010). Pregnancy after perinatal loss: Association of grief, anxiety	**Included**	Examines anxiety in pregnancy after perinatal loss

Reference – Duplicate references omitted (Include the full reference here)	**Included or Excluded and Document**	**Rationale**
and attachment. *Journal of Reproductive & Infant Psychology, 28*(3), 240-251. doi:10.1080/02646830903487342		
Geller, P. A., Kerns, D., & Klier, C. M. (2004). Anxiety following miscarriage and the subsequent pregnancy: A review of the literature and future directions. *Journal of Psychosomatic Research, 56*(1), 35-45. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1016/S0022-3999(03)00042-4	**Included**	Examines anxiety in pregnancy after perinatal loss
Gourounti, K., Anagnostopoulos, F., & Lykeridou, K. (2013). Coping strategies as psychological risk factor for antenatal anxiety, worries, and depression among Greek women. *Archives of Women's Mental Health, 16*(5), 353-361. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1007/s00737-013-0338-y	Excluded	Does not include previous miscarriage or perinatal loss
Hanprasertpong, T., Rattanaprueksachart, R., Janwadee, S., Geater, A., Kor-Anantakul, O., Suwanrath, C., & Hanprasertpong, J. (2013). Comparison of the effectiveness of different counseling methods before second trimester genetic amniocentesis in Thailand. *Prenatal Diagnosis, 33*(12), 1189-1193. doi:10.1002/pd.4222	Excluded	Does not include previous miscarriage or perinatal loss, and only focuses on amniocentesis
Highet, N., Stevenson, A. L., Purtell, C., & Coo, S. (2014). Qualitative insights into women's personal experiences of perinatal depression and anxiety. *Women & Birth, 27*(3), 179-184. doi:10.1016/j.wombi.2014.05.003	Excluded	Does not include previous miscarriage or perinatal loss
House, S., Tripathi, S., Knight, B., Morris, N., Newport, D., & Stowe, Z. (2016). Obsessive-compulsive disorder in pregnancy and the postpartum period: course of illness and obstetrical outcome. *Archives of Women's Mental Health, 19*(1), 3-10. doi:10.1007/s00737-015-0542-z	Excluded	Does not include previous miscarriage or perinatal loss or anxiety
Hunter, A., Tussis, L., & MacBeth, A. (2017). The presence of anxiety, depression and stress in women and their partners during pregnancies following perinatal loss: A meta-analysis. *Journal of Affective Disorders, 22*(3), 153-164. doi:10.1016/j.jad.2017.07.004	**Included**	Examines anxiety in pregnant women following previous perinatal loss
Hutti, M. H., Armstrong, D. S., & Myers, J. (2011). Healthcare utilization in the pregnancy following a perinatal loss. *The American Journal of Maternal Child Nursing, 36*(2), 104-111. doi:10.1097/NMC.0b013e3182057335	Excluded	Reviews healthcare utilization and does not look at anxiety specifically
Hutti, M. H., Armstrong, D. S., & Myers, J. (2014). Continuing Psychometric Evaluation of the Perinatal Grief Intensity Scale in the Subsequent	Excluded	Focuses on grief rather than anxiety

Reference – Duplicate references omitted (Include the full reference here)	**Included or Excluded and Document**	**Rationale**
Pregnancy After Perinatal Loss. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 43*(Supp 1), S82. doi:10.1111/1552-6909.12438		
Hutti, M. H., Armstrong, D. S., Myers, J. A., & Hall, L. A. (2015). Grief intensity, psychological well-being, and the intimate partner relationship in the subsequent pregnancy after a perinatal loss. *Journal of Obstetric, Gynecologic & Neonatal Nursing, 44*(1), 42-50. doi:10.1111/1552-6909.12539	Excluded	Focuses on grief rather than anxiety
Kendig, S., Keats, J. P., Camille Hoffman, M., Kay, L. B., Miller, E. S., Moore Simas, T. A., . . Lemieux, L. A. (2017). Consensus bundle on maternal mental health: Perinatal depression and anxiety. *Obstetrics & Gynecology, 129*(3), 422-430. doi:10.1097/AOG.0000000000001902	Excluded	Does not include previous miscarriage or perinatal loss
Kersting, A., Dölemeyer, R., Steinig, J., Walter, F., Kroker, K., Baust, K., & Wagner, B. (2013). Brief internet-based Intervention reduces posttraumatic stress and prolonged grief in parents after the loss of a child during pregnancy: A randomized controlled trial. *Psychotherapy & Psychosomatics, 82*(6), 372-381. doi:10.1159/000348713	Excluded	Focuses on post-traumatic stress and grief, not anxiety and does not include subsequent pregnancy
Kersting, A., Kroker, K., Schlicht, S., Baust, K., & Wagner, B. (2011). Efficacy of cognitive behavioral internet-based therapy in parents after the loss of a child during pregnancy: pilot data from a randomized controlled trial. *Archives of Women's Mental Health, 14*(6), 465-477. doi:10.1007/s00737-011-0240-4	Excluded	Does not focus on anxiety and does not include a subsequent pregnancy
Khunpradit, S., Tavender, E., Lumbiganon, P., Laopaiboon, M., Wasiak, J., & Gruen, R. (2011). Non-clinical interventions for reducing unnecessary caesarean section. *Cochrane Database of Systematic Reviews*, N.PAG.	Excluded	Focuses on cesarean section
Kong, G. W. S., Lok, I. H., Yiu, A. K. W., Hui, A. S. Y., Lai, B. P. Y., & Chung, T. K. H. (2013). Clinical and psychological impact after surgical, medical or expectant management of first-trimester miscarriage-a randomised controlled trial. *The Australian & New Zealand Journal of Obstetrics & Gynaecology, 53*(2), 170-177. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1111/ajo.12064	Excluded	Does not include subsequent pregnancy
Lee, L., McKenzie-McHarg, K., & Horsch, A. (2017). The impact of miscarriage and stillbirth on maternal–fetal relationships: an integrative review. *Journal of Reproductive & Infant Psychology, 35*(1), 32-52. doi:10.1080/02646838.2016.1239249	Excluded	Focuses on maternal-fetal relationships, not anxiety

Reference – Duplicate references omitted (Include the full reference here)	**Included or Excluded and Document**	**Rationale**
Leshem, M. (2011). Low dietary sodium is anxiogenic in rats. *Physiology & Behavior, 103*(5), 453-458. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1016/j.physbeh.2011.03.025	Excluded	Rat study, not pregnant human women
Malouf, R., & Redshaw, M. (2017). Specialist antenatal clinics for women at high risk of preterm birth: a systematic review of qualitative and quantitative research. *BMC Pregnancy & Childbirth, 17*, 1-17. doi:10.1186/s12884-017-1232-9	Excluded	Focuses on preterm birth
Meredith, P., Wilson, T., Branjerdporn, G., Strong, J., & Desha, L. (2017). "Not just a normal mum": A qualitative investigation of a support service for women who are pregnant subsequent to perinatal loss. *BMC Pregnancy & Childbirth, 17*, 1-12. doi:10.1186/s12884-016-1200-9	**Included**	Examines intervention for anxiety in pregnant women after previous perinatal loss
Morrison, M. K., Lowe, J. M., & Collins, C. E. (2014). Australian women's experiences of living with gestational diabetes. *Women & Birth, 27*(1), 52-57. doi:10.1016/j.wombi.2013.10.001	Excluded	Focuses on gestational diabetes
Mujezinovic, F. (2011). Analgesia for amniocentesis or chorionic villus sampling. *Cochrane Database of Systematic Reviews*, (11), doi:10.1002/14651858.CD008580.pub2	Excluded	Focuses on amniocentesis
Murphy, F. A. (2012). Follow-up for improving psychological well being for women after a miscarriage. *Cochrane Database of Systematic Reviews*, (3), doi:10.1002/14651858.CD008679.pub2	Excluded	Does not include current pregnancy
Nanda, K. (2012). Expectant care versus surgical treatment for miscarriage. *Cochrane Database of Systematic Reviews*, (3), doi:10.1002/14651858.CD003518.pub3	Excluded	Focuses solely on the current miscarriage management
Oaks, A. W., Zamarbide, M., Tambunan, D. E., Santini, E., Di Costanzo, S., Pond, H. L., . . . Manzini, M. C. (2017). Cc2d1a loss of function disrupts functional and morphological development in forebrain neurons leading to cognitive and social deficits. *Cerebral Cortex, 27*(2), 1670-1685. Retrieved from http://ezproxy.mnsu.edu/login?url=https://search-proquest-com.ezproxy.mnsu.edu/docview/1912309648?accountid=12259	Excluded	Focuses on development, not anxiety regarding perinatal loss
Puente, C. P., Carmona Monge, F. J., Abellán, I. C., & Morales, D. M. (2011). Effects of personality on psychiatric and somatic symptoms in pregnant women: The role of pregnancy worries. *Psychology of Women Quarterly, 35*(2), 293-302.	Excluded	Does not include previous miscarriage or perinatal loss

Reference – Duplicate references omitted (Include the full reference here)	**Included or Excluded and Document**	**Rationale**
doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1177/0361684310384105		
Robinson, G. (2011). Dilemmas related to pregnancy loss. *Journal of Nervous & Mental Disease, 199*(8), 571-574. doi:10.1097/NMD.0b013e318225f31e	Excluded	Does not include subsequent pregnancy
Robinson, G. E. (2014). Pregnancy loss. *Best Practice & Research: Clinical Obstetrics & Gynaecology, 28*(1), 169-178. doi:10.1016/j.bpobgyn.2013.08.012	Excluded	Does not include subsequent pregnancy
Silveira, M. L., Whitcomb, B. W., Pekow, P., Carbone, E. T., & Chasan-Taber, L. (2016). Anxiety, depression, and oral health among US pregnant women: 2010 Behavioral Risk Factor Surveillance System. *Journal of Public Health Dentistry, 76*(1), 56-64. doi:10.1111/jphd.12112	Excluded	Does not include previous miscarriage or perinatal loss
Simmons, H. A., & Goldberg, L. S. (2011). 'High-risk' pregnancy after perinatal loss: Understanding the label. *Midwifery, 27*(4), 452-457. doi:10.1016/j.midw.2010.02.013	Excluded	Does not focus on anxiety, focuses on the 'high-risk' label
Sutan, R., & Miskam, H. M. (2012). Psychosocial impact of perinatal loss among Muslim women. *BMC Women's Health, 12*(1), 15. doi:10.1186/1472-6874-12-15	Excluded	Does not include subsequent pregnancy
Tektaş, P., & Çam, O. (2017). The effects of nursing care based on Watson's theory of human caring on the mental health of pregnant women after a pregnancy loss. *Archives of Psychiatric Nursing, 31*(5), 440-446. doi:10.1016/j.apnu.2017.07.002	**Included**	Intervention for anxiety and depression in subsequent pregnancy after previous perinatal loss
Van Dinter, M., & Graves, L. (2012). Managing adverse birth outcomes: helping parents and families cope. *American Family Physician, 85*(9), 900-904.	Excluded	Does not include subsequent pregnancy or anxiety or miscarriage
Vázquez-Borsetti, P., Peña, E., Rico, C., Noto, M., Miller, N., Cohon, D., . . . Loidl, F. C. (2016). Perinatal asphyxia reduces the number of reelin neurons in the prelimbic cortex and deteriorates social interaction in rats. *Developmental Neuroscience, 38*(4), 241-250. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1159/000448244	Excluded	Rat study, does not include human women
Wood, L., & Quenby, S. (2011). Women's perceptions of stressful life events in relation to pre-term birth. *British Journal Of Midwifery, 19*(2), 107-114.	Excluded	Focuses on preterm birth only

Table 4

Literature Review Table of All Studies Included

Citation (Include the citation of all studies that met inclusion criteria from Table 3 above)	**Study Purpose**	**Pop (N)/ Sample Size (n) /Setting(s)**	**Design/ Level of Evidence** (Melnyk & Fineout-Overholt, 2015)	**Variables/ Instruments**	**Intervention**	**Findings**	**Implications**
Bergner, A., Beyer, R., Klapp, B. F., & Rauchfuss, M. (2008). Pregnancy after early pregnancy loss: A prospective study of anxiety, depressive symptomatology and coping. *Journal of Psychosomatic Obstetrics & Gynecology*, *29*(2), 105-113. doi: http://dx.doi.org.ezproxy.mnsu.edu/10.1080/01674820701687521	To identify patterns of coping in order to predict the pregnant women's anxiety and depression	342 women, 108 of those were in their subsequent pregnancy, In Berlin, Germany	Level IV	The Depression Scale, State Trait Anxiety Inventory, Pregnancy Specific Anxieties	N/A	"depressive coping" and "anxious grieving" were two main categories that predicted an increase in depression and anxiety in the early weeks of the subsequent pregnancy	At-risk women could benefit from early intervention in the subsequent pregnancy
Côté-Arsenault, D. (2007). Threat appraisal, coping, and emotions across pregnancy subsequent to perinatal loss. *Nursing Research, 56*(2), 108-116.	"To test Lazarus' theory of stress, coping, and emotions in this population, and to understand the patterns of threat appraisal, coping, and emotional states of women across pregnancy after perinatal loss"	Convenience sample of 82 pregnant women, age 20 and older who experienced previous perinatal loss, in the U.S.	Level IV	Moneyham Threat Index, Ways of Coping Checklist – Revised, Pregnancy Anxiety Scale, Multiple Affect Adjective Checklist – Revised, Stress in Life	N/A	Increased perception of threat was correlated with increased anxiety	Anxiety should be addressed early and at every prenatal visit so that interventions could be instituted
Côté -Arsenault, D., & Donato, K. (2011). Emotional cushioning in pregnancy after perinatal loss. *Journal of Reproductive & Infant Psychology, 29*(1), 81-92. doi:10.1080/02646838.2010.513115	"To describe the range and prevalence of emotional cushioning, to compare pre- and post-natal reports of emotional cushioning, and to examine	Convenience sample of 63 pregnant women after perinatal loss	Level IV	Pregnancy Anxiety Scale, questions regarding "'holding back their emotions' in pregnancy"	N/A	Emotional cushioning was correlated with pregnancy anxiety	Understanding that patients are likely feeling more anxiety than they are willing to admit, and clinicians should reach out to patients early. Emotional cushioning might also account for under-reporting of anxiety in research of pregnant women who previously experienced perinatal loss

Citation (Include the citation of all studies that met inclusion criteria from Table 3 above)	**Study Purpose**	**Pop (N)/ Sample Size (n) /Setting(s)**	**Design/ Level of Evidence** (Melnyk & Fineout-Overholt, 2015)	**Variables/ Instruments**	**Intervention**	**Findings**	**Implications**
	relationships between emotional cushioning and pregnancy anxiety pre- and post-natally"						
Côté -Arsenault, D., Krowchuk, H., Schwartz, K., & McCoy, T. P. (2014). Evidence-based intervention with women pregnant after perinatal loss. *The American Journal of Maternal Child Nursing, 39*(3), 177-188. doi:10.1097/NMC.0000000000000024	"To test the feasibility and acceptability of a caring-based nurse home visit intervention for women pregnant after perinatal loss"	9 pregnant women for phase I and 24 pregnant women for phase II, in New York.	Phase I – Level III, Phase II, Level II	Loss – Assignment of Fetal Personhood, Threat – Appraisal – Moneyham Threat Index, Pregnancy Anxiety – Pregnancy Anxiety Scale, Trait Anxiety – State & Trait Anxiety Inventory, Depression – The Center for Epidemiologic Studies Depression Scale, Self Mastery, Prenatal Attachment – The Maternal Antenatal Attachment Scale, Satisfaction with Social Support – Social Support Questionnaire	Home visits that included a nurse visit, guided pregnancy diary, and skill building to reduce anxiety	The home visits were seen as a positive support for the women, but most felt like they were able to use the tools provided to manage their own anxiety	The intervention that was utilized in this study could be replicated and utilized in practice to help women reduce their own anxiety while pregnant after previous perinatal loss
Gaudet, C. (2010). Pregnancy after perinatal loss: association of grief, anxiety and attachment. *Journal of Reproductive & Infant Psychology, 28*(3), 240-251. doi:10.1080/02646830903487342	"to explore the psychological experience of pregnancy after a previous perinatal loss and to bring to light the risk factors of psychological distress and disorders in instituting	96 pregnant women who had previous pregnancy loss in France, and a control group who had never experienced perinatal	Level IV	Anxio-depressive symptomatology - Hospital Anxiety and Depression Scale, prenatal attachment – Maternal Prenatal Attachment Scale, post perinatal grief symptoms – Perinatal Grief Scale	N/A	Significantly higher scores of anxiety and depressive symptoms in the group of pregnant women who had experienced previous perinatal loss. This was predictive of prenatal attachment levels	Clinicians need to provide psychosocial and clinical care for pregnant women who have experienced previous perinatal loss throughout the subsequent pregnancy, all the way up to the birth of the child

Citation (Include the citation of all studies that met inclusion criteria from Table 3 above)	**Study Purpose**	**Pop (N)/ Sample Size (n) /Setting(s)**	**Design/ Level of Evidence** (Melnyk & Fineout-Overholt, 2015)	**Variables/ Instruments**	**Intervention**	**Findings**	**Implications**
	antenatal attachment with the subsequent child"	loss					
Geller, P. A., Kerns, D., & Klier, C. M. (2004). Anxiety following miscarriage and the subsequent pregnancy: A review of the literature and future directions. *Journal of Psychosomatic Research, 56*(1), 35-45. doi:http://dx.doi.org.ezproxy.mnsu.edu/10.1016/S0022-3999(03)00042-4	"to summarize the research literature regarding anxiety symptomatology and disorders following miscarriage"	85 articles were reviewed	Level V	Multiple	Multiple	The first 4 to 6 months after perinatal loss are the most significant risk for an increase in anxiety	Further research is needed on the possible linkage between anxiety and the cause of a miscarriage, and also understanding the difference between depression and anxiety needs to be explored more deeply
Hunter, A., Tussis, L., & MacBeth, A. (2017). The presence of anxiety, depression and stress in women and their partners during pregnancies following perinatal loss: A meta-analysis. *Journal of Affective Disorders, 22*(3), 153-164. doi:10.1016/j.jad.2017.07.004	Meta-analysis to estimate "rates of anxiety, depression and stress in pregnant women and their partners during pregnancies after previous perinatal loss"	Studies representing 5114 women with previous perinatal loss, and 30,272 controls	Level V	Multiple	Multiple	Perinatal loss had significant effects on anxiety and depression, but not on stress. The type of perinatal loss did not affect the level of anxiety experienced in the subsequent pregnancy	Anxiety can be reduced by providing ultrasounds and other tests that can confirm the viability of the current pregnancy.
Meredith, P., Wilson, T., Branjerdporn, G., Strong, J., & Desha, L. (2017). "Not just a normal mum": A qualitative investigation of a support service for women who are pregnant subsequent to perinatal loss. *BMC Pregnancy & Childbirth, 17*, 1-12. doi:10.1186/s12884-016-1200-9	To investigate the experience of pregnant women after previous perinatal loss and the support services that can provide assistance	10 pregnant women after previous perinatal loss in Brisbane, Austraia	Level VI	A semi-structured interview where "questions were phrased in a way to engender reflection on an experience"	Phone and in-person semi structured interviews	Seven major themes emerged from the interviews: "The overall experience, The unique experience of first pregnancy after loss, Support from PALC, Experiences of other services, Recommendations for PALC services, Need for alternative services, and Advice: Mother to mother"	Consistent caregivers who know the background of the patient makes a difference on their experience of distress. Caregivers need to be acutely aware of the anxiety due to previous perinatal loss and provide support for their experience of anxiety following the loss
Tektaş, P., & Çam, O. (2017). The effects of nursing care based on Watson's	To determine "the effects of	55 women in the	Level II	Beck Anxiety Scale, Beck Depression Scale,	Prenatal nursing care	Statistically significant differences were noted after the	The interventions within Watson's Theory of Human Caring of giving

Citation (Include the citation of all studies that met inclusion criteria from Table 3 above)	**Study Purpose**	**Pop (N)/ Sample Size (n) /Setting(s)**	**Design/ Level of Evidence** (Melnyk & Fineout-Overholt, 2015)	**Variables/ Instruments**	**Intervention**	**Findings**	**Implications**
theory of human caring on the mental health of pregnant women after a pregnancy loss. *Archives of Psychiatric Nursing, 31*(5), 440-446. doi:10.1016/j.apnu.2017.07.002	nursing care based on Watson's Theory of Human Caring on mental health of pregnant women who have experienced a pregnancy loss"	experimental group and 46 women in the control group, in Izmir, Turkey		Beck Hopelessness Scale, Prenatal attachment inventory	based on Watson's Theory of Human Caring with ten healing processes versus routine prenatal care	nursing intervention care based on Watson's Theory of Human Caring in the experimental group versus the control group.	pregnancy information and teaching relaxation exercises lowered anxiety and should be employed to help reduce anxiety in pregnant women who have experienced previous perinatal loss

Melnyk, B. M., & Fineout-Overholt, E. (2015). *Evidence-Based Practice in Nursing & Healthcare: A Guide to Best Practice* (3rd ed.). Philadelphia, PA: Wolters Kluwer.